CHAPTER TEN
FIRE PREVENTION

This Chapter reviews and evaluates the Lower Merion Fire Department’s (LMFD) fire prevention activities, including: fire and life safety inspections, plans reviews, code enforcement, fire investigation, and public fire safety education. The programs were compared to national program standards and recognized best practices. Recommendations for improvement are made where indicated.

OVERVIEW

The NFPA Fire Protection Handbook, Nineteenth Edition, Section 7, Chapter 14, provides the following thoughts and directions on fire prevention:

1. Fire prevention includes any fire service activity that decreases the incidence and severity of uncontrolled fire. In the United States, the full value of fire prevention was not realized until fire departments and agencies began to compile meaningful information concerning the causes and circumstances of fires.

2. Usually, fire prevention methods used by the fire service focus on inspection, which includes engineering, code enforcement, public fire safety education, and fire investigation.

3. Effective fire prevention depends on the adoption of up-to-date codes and standards and a personnel network technically capable and motivated to enforce the fire codes, educate the public, and investigate fires.”

There are many different models by which fire prevention services can be delivered; however, most fire prevention services are normally found as community-based functions that involve some form of local level government. The manner in which these services are delivered generally depends on the type of fire department serving the community. A career fire department generally serves a large urban or suburban area and will most likely have a fire prevention bureau responsible for all of the fire prevention activities named above.
FIRE PREVENTION

OVERVIEW (continued)

On the opposite end of the scale, an all volunteer fire department is most likely to serve a small, suburban or rural community that may have a very weak or limited local government structure. Fire prevention activities handled by those fire departments are generally limited to public fire safety events like open houses and school classroom visits. Functions such as code enforcement, plans review, and fire investigation are often handled at a county or state level or, in some cases, not at all.

In the combination career/volunteer fire department, fire prevention activities are commonly a function handled by the career staff, often with personnel dedicated to the code enforcement and inspection functions. In fact, many combination fire departments have their roots tied to the hiring of the community’s first fire marshal to handle fire code enforcement and inspections. Growth was creating a demand for more inspections and the volunteer staff could not commit the time to conduct this type of work, thus the need for paid staff to perform these functions.

The Study Team’s review of LMFD’s fire prevention functions shows that there has been much discussion over time about the fire prevention needs of the community and how the LMFD is to meet those needs. Certainly land development and economic growth have affected these needs, and it appears that the department has struggled at times to meet the demands placed upon it.

The Study Team found that as early as 1965 there was concern within the LMFD about the delivery of fire prevention services. Several excerpts from the Public Administration Service Study–Fire Services for Lower Merion Township (1965) reveal such concerns:

“As communities grow, they tend to be characterized by more numerous, larger, and more complex structures, with greater diversity of occupancies, and hence an increasing number and variety of problems. These developments in turn require increased fire protection activities.”
FIRE PREVENTION

OVERVIEW (continued)

"Even the best fire protection code depends upon inspection and enforcement to be effective...fire prevention work in Lower Merion Township should be placed on a scheduled basis and at least two more inspectors should be added to the staff."

It appears to the Study Team that the Township and the LMFD place a high priority on the importance of fire prevention and its associated activities. In the opinion of the Study Team and many fire service professionals, a strong fire prevention program is particularly important in a primarily volunteer system, such as the LMFD.

Comprehensive fire prevention programs are particularly essential in communities where the fire services are staffed by volunteers, due to varying response times to incidents and staffing levels that may not be consistent around the clock. In other words, communities with very cost-effective volunteer staffing of apparatus many times recognize the need to develop enhanced fire prevention activities in support of the volunteer nature of their fire services.

CIVILIAN CASUALTIES AND PROPERTY LOSS

Two important indicators of a community's fire problem and/or the success of their fire protection measures are civilian casualties and property loss. Traditionally, communities with a strong economic base and stringent building and fire prevention codes have fewer incidents of fires than communities that struggle financially to provide the basic services to their citizens.

When examining nationwide trends in life and property losses due to fire, most of those losses have occurred in areas of poor economic standing, and where building and fire codes have been the weakest and least enforced. In the case of the Township of Lower Merion, it appears to the Study Team that the community is of good economic stature, and the development and implementation of strong building and fire codes has truly kept the incidence of fire to a minimum both in terms of frequency and severity.
FIRE PREVENTION

CIVILIAN CASUALTIES & PROPERTY LOSS (continued)

**Civilian Fire Deaths**

In 2004, the Township suffered its first civilian fire fatality in ten years; in 2006, another civilian perished. Both fatalities occurred in residential occupancies and the causes of the fires were accidental: a bent electrical cord and careless smoking, respectively. In terms of civilian injuries due to fire, there were 8 civilian injuries in 2004, 11 in 2005 and 16 in 2006.

While the Study Team believes that loss of life due to fire is never acceptable, the Team is aware of the reality of the matter and understands that it is very difficult to control the actions of citizens in their homes. In the case of the two most recent fire fatalities that occurred in the Township, both occurred in residential occupancies and both were caused by the occupant and not a failure of the local building code or code enforcement process.

When compared to the fire death rate for Pennsylvania—16.4 deaths per million population in 2004, the fire death rate experienced by the Township over the last ten years has been excellent. The Township should be commended for the efforts involved in the Township’s fire prevention programs and processes, and encourages that work to continue.

**Civilian Fire Injuries**

The Study Team has found it difficult to obtain a complete picture of a community’s injury rate because not all injuries are reported. For example, many fire-related injuries go unreported because they occur at small fires where the fire department may not even be called, or the injuries are minor in nature and the fire department is never told of the injury even though they responded to the incident.

The Township's civilian injury rate for 2005 is higher than the average rate for communities with a population 50,000 to 99,999 in the northeast part of the United States (NFPA Fire Loss in the U.S. 2005).
FIRE PREVENTION

CIVILIAN CASUALTIES & PROPERTY LOSS (continued)

The Study Team had insufficient data to conduct any further analysis, but does recommend that the LMFD conduct a more in-depth review of the nature and cause of all civilian fire injuries which have occurred over the last five years in the Township, especially since there has been a steady rise in the number of reported injuries over the last three years.

Property Loss Due to Fire

Finally, the assessment of a property’s value in terms of the structure and its contents is a difficult task for all fire departments to complete; firefighters are generally not trained as insurance adjusters. Property loss, or fire loss, has been a longstanding statistic by which numerous comparisons have been made and, in some cases, fire departments have been rated on their ability to fight fires.

The values displayed in a community’s fire loss data are dependent on who made the assessment and on what basis that assessment was made. The Study Team considers these variables too great and the data too easily skewed by items such as a single fire at a high-value property, or multiple, undervalued entries at more frequent incidents.

Regardless, fire loss is one of the statistics that has existed for many years as a comparison basis for communities. In terms of fire loss in the Township, there was an estimated $2.7 million in losses in 2005 and an estimated $1.15 million in losses in 2006. The 2005 statistic was higher than the regional average for communities similar in size to the Township. For 2006, the national data is not yet finalized, but preliminary findings show that the Township’s fire loss should be at par or below the average.

The Township’s fire loss is not extreme at this time, and has generally not been in the past, when compared to other similarly sized communities. Because of the affluent nature of the Township’s population, a low frequency of fire incidents could actually result in a disproportionately high fire loss. The Study Team recommends that the LMFD continue to accurately document all fire losses and to conduct periodic reviews of fire loss trends in an effort to address any specific revisions needed to the building and/or fire code.
FIRE PREVENTION

AUTHORITY AND RESPONSIBILITIES

Chapter 78, Fire Prevention of the Code of the Township of Lower Merion Township, establishes the authority under which the LMFD chief fire officer (fire marshal) operates. Chapter 78 is an all-encompassing document that addresses the fire department administration as well as the adoption of standards.

In Article I, Administration of Fire Department, Section 78-6, Fire Marshal; Deputy Fire Marshal, the powers and responsibilities of the fire marshal are listed:

“A. The Fire Marshal shall have the power and responsibility of enforcing all laws, ordinances and regulations with respect to:

(1) The prevention of fires.
(2) The storage and use of explosives and flammables.
(3) The installation and maintenance of automatic and other fire alarm systems and fire-extinguishing equipment.
(4) The maintenance and regulation of fire escapes and the means and adequacy of exits, in case of fire, from factories, schools, apartments, hotels, lodging houses, mental and other hospitals, churches, halls, theaters, and all other places in which numbers of persons work, live or congregate from time to time for any purpose.
(5) The investigation of the cause, origin, and circumstances of fire.

B. The Fire Marshal shall be assisted in his work by the Deputy Chief Officer and one or more Deputy Fire Marshals.”

The LMFD fire marshal staff works to prevent fires and to ensure the safety of Township residents and business owners/operators through the enforcement of the following:

A. 2006 International Codes (building code and fire code)–Pennsylvania adopted;
FIRE PREVENTION

AUTHORITY & RESPONSIBILITIES (continued)

B. Chapter 78 of the Code of the Township of Lower Merion; and,

C. National Fire Protection Association (NFPA) standards.

These ordinances, codes and standards are enforced through plans reviews, inspections, permits and licenses, and the collection of associated fees.

The Study Team was advised that the LMFD fire marshals do not have authority to conduct code enforcement activities within the Borough of Narberth. The LMFD fire marshals provide fire investigation services to the Borough, as requested.

ORGANIZATION AND STAFFING

Currently, the LMFD fire marshals enforce the applicable fire and life safety codes and carry out their related responsibilities under the direction of the chief fire officer (CFO).

The CFO Office is headed by the chief fire officer, who also carries the title of fire marshal (FM). The CFO Office is currently staffed as follows:

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Fire Officer/FM</td>
<td>1</td>
</tr>
<tr>
<td>Deputy Chief Fire Officer</td>
<td>1</td>
</tr>
<tr>
<td>Deputy Fire Marshal (DFM)</td>
<td>3*</td>
</tr>
<tr>
<td>Administrative Secretary II</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: *One DFM retired during the course of this Study, and a replacement is in the process of being selected.

The staff of the CFO Office appears to be highly dedicated and recognizes the critical importance of fire prevention functions.
FIRE PREVENTION

ORGANIZATION AND STAFFING (continued)

There are areas for improvement in fire prevention-related service delivery given the increasing workload in inspections, plans review, public education, and investigations; these will be discussed in the following sections of this Chapter. In a number of areas the workload continues to increase while, through the years, the staffing levels have declined.

A number of requests have been made in recent years for the enhancement of fire prevention-related staffing. The Study Team understands that one of the purposes of this Study is to assess the workload, gauge progress in accomplishing desired objectives, provide suggestions for improvement as appears justified in light of the upscale nature of the Lower Merion community, consider future growth and development plans, and evaluate the volunteer nature of the fire services delivery system.

FIRE SAFETY CODE ENFORCEMENT - PLANS REVIEW

The review of building plans and specifications provides a local fire department with its best opportunity to ensure fire protection standards are met before construction is completed and the building is occupied. In the Township of Lower Merion, determining how the code requirements are applied to a new structure, premise or process is accomplished through a cooperative effort of the Township’s Building and Planning Department and the LMFD. Plans and specifications for new construction, additions, renovations and alterations must be submitted by the applicant and must include sufficient data to confirm compliance with applicable codes and standards.

According to LMFD data provided to the Study Team, the fire department conducted or participated in 298 plans examinations in 2004, 357 in 2005, and 386 in 2006. These numbers represent a steady increase over the three year period.

Established in 1713, the Township of Lower Merion is an old community with a large amount of old housing stock and commercial structures. Like numerous suburban communities in the Northeast, the Township is experiencing a period of revitalization; many of these old structures are being demolished and newer, more modern buildings are being
FIRE PREVENTION

PLANS REVIEW (continued)

constructed, or the old structures are being gutted and remodeled in contemporary styles.

New Major Projects

Regardless of the construction project’s outcome, the process is the same in terms of the requirements placed on the Building and Planning Department and the LMFD fire marshals. Information provided to the Study Team by the LMFD reveals that there are at least 16 major commercial construction projects either currently underway or slated to begin within the next 18 months. These projects involve over one million square feet (sf) of space with an estimated total cost of over $250 million. The projects include:

<table>
<thead>
<tr>
<th>2007 Projects</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Channel</td>
<td>60,000 sf, renovation</td>
</tr>
<tr>
<td>Rosemont College</td>
<td>5,400 sf, renovation</td>
</tr>
<tr>
<td>WOGL Radio</td>
<td>18,500 sf, renovation</td>
</tr>
<tr>
<td>Philadelphia C.C.</td>
<td>4,375 sf, new structure</td>
</tr>
<tr>
<td>Haverford School</td>
<td>140,365 sf, addition</td>
</tr>
<tr>
<td>Harriton High School</td>
<td>190,809 sf, new high school</td>
</tr>
<tr>
<td>Rock Hill Road</td>
<td>12,350 sf, new office building</td>
</tr>
<tr>
<td>Toyota Dealership</td>
<td>30,886 sf, new auto dealer</td>
</tr>
<tr>
<td>Baldwin School</td>
<td>34,500 sf, new gymnasium</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2008 Projects</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Merion High School</td>
<td>333,603 sf, new high school</td>
</tr>
<tr>
<td>Shipley School</td>
<td>15,000 sf, new structure</td>
</tr>
<tr>
<td>Waverly Heights Life Care</td>
<td>60,000 sf, addition</td>
</tr>
<tr>
<td>Wynnewood Square</td>
<td>3,760 sf, addition and new structure</td>
</tr>
<tr>
<td>Infiniti of Ardmore</td>
<td>7,003 sf, addition/renovation</td>
</tr>
<tr>
<td>Bryn Mawr Hospital</td>
<td>147,000 sf, new office building</td>
</tr>
</tbody>
</table>

Carroll Buracker & Associates, Inc.

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FIRE PREVENTION

BUILDING INSPECTIONS (continued)

Bryn Mawr Hospital new five level parking garage

Any of the construction projects listed would serve as a good example of a time-consuming, complex project that is going to need a dedicated plans review staff to ensure that the plans meet the codes. Once the project is underway, a dedicated code enforcement and inspection staff will be needed to see the project through to completion and final occupancy.

The current staffing level of the LMFD’s fire marshal function is inadequate to accomplish the review and inspection of this volume of new construction work and still keep pace with the workload created by the existing properties in the Township.

FIRE SAFETY CODE ENFORCEMENT - BUILDING INSPECTIONS

A fire-related building inspection program that is accomplished by well trained personnel is the backbone of a total fire prevention program. Nothing can take the place of an onsite visit and one-on-one discussion with the property owner or manager to eliminate code violations and fire hazards.

A total building inspection program will cover both existing properties and inspections required during the new construction process. The approaches to the resolution of problems associated with existing properties are significantly different from those of new construction that are handled by simply not issuing the building or occupancy permit. With existing properties, enforcement typically is a combination of logical convincing during discussions with the property owner or manager, the issuance of violation notices and, in extreme cases, fines. Further, some existing properties require specialized inspections due to hazards associated with materials used, manufactured or stored on the industrial or commercial site.

In terms of actual fire inspections, they can be classified into three types: installation and new construction, ongoing compliance, and reinspection. Installation and new construction inspections ensure compliance with adopted codes and standards and help eliminate problems before the building is occupied or a new fire protection system is placed in service.
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

Ongoing inspections are used to ensure that the occupancy is in compliance with the original code requirements and/or any modifications that have occurred over time, due to changes in the code or standards or an alteration in the occupancy. These inspections are generally carried out on a yearly basis, based on licensing requirements.

Perhaps the most important type of inspection is the reinspection because it is the inspection that ensures violations and unsafe conditions have been corrected. Without a reinspection component as part of a department’s inspection program, the code enforcement process is weakened significantly; much of the intense work undertaken to conduct the inspection is lost if there is no reinspection to ensure compliance.

Inspections in Lower Merion

In the Township of Lower Merion, all fire-related building inspections are handled by the LMFD’s fire marshals. In 2006, the fire marshals conducted 1,005 routine inspections and witnessed or performed 423 alarm/system tests. Both workload levels represent a continued downward performance trend since 2000 when a record high of 4,402 inspections and 926 alarm/system tests were completed.

In interviews conducted with the fire marshals and CFO staff, the Study Team noted that they were concerned about the decline in time available to conduct the increasing number of routine building inspections, the increasing number of necessary inspections not being performed and the impact that might have on the community’s fire safety. The Study Team concurs with the concerns of the fire marshals and the senior department leadership, and is further concerned about the steady decline in the number of building inspections completed. See Figure 10.1.

The Study Team is of the opinion that there may not be any single contributing factor that has caused this decline in inspections; rather there have been other competing interests and special assignments that resulted in the diversion of staffing on a temporary basis. Coupled with the loss of a fire inspector in 2002 and the absence of an administrative secretary for a
LOWER MERION TOWNSHIP FIRE DEPARTMENT
Routine Inspections 1998 - 2006

Source: LMTFD
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

period of time, the LMFD has had to struggle to meet the workload demands; the building
inspection program appears to have suffered most.

According to LMFD data, there are an estimated 2,300 “inspectable” properties in the
Township which are arranged into 64 geographic areas known as “blocks.” Each property
has a separate listing in the department’s inspection data base (Firehouse Software).
Additionally, in the Township there are 26 commercial districts and over 300 school
buildings. In terms of fire suppression and detection systems, there more than 500 automatic
sprinkler systems and automatic fire alarm systems in the Township.

The Study Team suggests action be taken to include the use of paid firefighters at the LMFD
fire companies in performing building inspections. Nationally, personnel of engine and
ladder companies in many fire departments perform a significant number of the building
inspections in their communities and contribute to the overall fire prevention effort.

During discussions with firefighting personnel at the LMFD fire companies, the Study Team
detected a reluctance on the part of some company personnel to acknowledge the role that
the paid firefighters could have in the fire prevention and code enforcement activities. This
needs to be changed. NFPA 1201, Standard for Providing Emergency Services to the Public
(2004 edition), clearly states:

“The enforcement of fire and life safety codes shall be one of the major focus areas
for a fire department.” And, “Where needed to ensure a thorough and sufficiently
frequent inspection enforcement schedule, the fire chief shall utilize fire suppression
personnel by incorporating fire prevention duties into fire company activities.”

Historically, many fire department personnel in the United States have believed that they
were simply part of a “standby” service. They believed their purpose was to “wait for the big
one,” and that activities like EMS response and fire prevention were “someone else’s job.”
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

Typically, a fire department is given authority and responsibility to establish and maintain fire and life safety throughout its jurisdiction. Citizens depend on the fire department to ensure they are protected against the dangers of fire, explosions and other hazardous conditions that may occur within their community. NFPA Standard 1201, Chapter A-14-5.2.1 states, in part:

“It is imperative that all fire department personnel recognize that fire safety education and prevention is a major part of the fire fighter's responsibilities.”

“The concept of utilizing fire companies for fire prevention inspection duties has been used widely in the fire service for the past several decades. This practice has allowed the fire department to maintain an acceptable level of fire and life safety in a broad range of critical occupancies. In order for this concept to be effective, several basic rules should be followed:

(a) The fire chief and personnel involved should thoroughly understand and fully support the concept.
(b) Each fire company member should receive adequate training on inspection procedures, laws and basic codes, and departmental policies.
(c) Fire company inspection manuals should be developed and issued to all personnel to provide general code violation and inspection procedures.
(d) Geographical areas of responsibility should be assigned to each fire company. These areas should correspond to fire alarm suppression districts.
(e) Full-time fire prevention personnel should be assigned to assist the fire companies with technical advice.
(f) Criteria should be established to prioritize occupancies for life safety inspections (e.g., hospitals, schools).
(g) Fire company officers should be held accountable for completion of their assigned inspection responsibilities.”
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

The advantages of utilizing in-service fire company personnel are numerous. Most importantly, pre-fire plans can be established or updated, and fire company personnel can identify and become familiar with risks they may have to deal with in an emergency. Furthermore, public relations are improved, street and geographical files are updated, and mandated inspection frequencies are met. Fire company personnel can also be utilized to check after-hour occupancies for locked/blocked exits, overcrowding and other life safety violations.

The Study Team encourages the LMFD to implement an in-service inspection program that utilizes the paid firefighters from the LMFD fire companies to conduct routine fire and life safety inspections of properties located within their company's first due response district. In order to implement this program, the following actions may need to be taken:

A. Amend Chapter 78 of the Township code to give the authority to conduct fire and life safety inspections to "designees" of the fire marshal who are also paid or volunteer members of the LMFD;

B. Train and equip those firefighters so that they are prepared to conduct the inspections;

C. Assign blocks of routine inspections to the individual companies and provide a timeline for completion;

D. Assign an LMFD fire inspector and assistant fire marshal (AFM) as liaisons for each fire company response district; and,

E. Provide a mechanism and process for entering the inspection data into the Firehouse Software database.
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

The goal should be to complete at least one inspection at all inspectable properties in the Township within 18 months of the release of the Study Team’s final report and every property thereafter every 12 months.

Model Three-Tier Building Inspections Program

The following sections describe a model three-tier building inspection program that should be considered for implementation by the LMFD after the initial 18-month inspection period and after all properties have been inspected once.

Tier 1: Business Self-Inspection Program

The first tier of a three-tier building inspections program could be a self-inspection level where the building owner or manager is requested by the LMFD to conduct a self-inspection. Small “mom and pop” sized business establishments such as barber shops and convenience stores are provided a self-mailer pamphlet, entitled “Business Fire Safety Checklist,” that explains the program and provides instructions, as well as the fire safety checklist.

The business owner/manager is requested to conduct the safety inspection of their business, complete the checklist and fold, staple and mail the self-addressed mailer to the LMFD fire prevention division.

The fire safety inspection checklist includes the following items:

- Business is kept clean
- Nothing is stored next to furnaces and heaters
- Extension cords are not used for permanent wiring
- There is clear access to electrical panels
- Circuit breakers/fuses do not trip routinely
- Fire extinguishers are permanently mounted and serviced annually
- Cigarettes are disposed of separately
FIRE PREVENTION

BUILDING INSPECTIONS (continued)

- Building address is clearly visible from the street
- Dumpster and storage are away from the building
- All paints, lubricants, greases, and other combustible liquids are stored in proper containers
- All exit paths are clear and exit doors are operable

If returned by the business owner/manager, this self-inspection program could essentially accomplish the same objective as having a fire prevention division inspector take the time to personally inspect the property. This approach may save significant staff time while providing a record of the property having been inspected for fire safety purposes.

Tier 2: Fire Company In-service Inspections

With an in-service company inspection program, the paid firefighters of the LMFD fire companies would visit assigned properties, meet with the owner/manager, and conduct the inspection while having the opportunity to become familiar with the building. Additional, follow-up inspection visits would be made as necessary and any problematic unresolved building inspection issues would be referred to the fire prevention division or the on-duty AFM for the district.

Tier 3: Follow-up and Complex/Hazard-Related Properties

The third level of the model building inspections program would be handled by fire prevention division inspectors. Division inspectors would handle follow-up inspections to deal with building inspection issues referred by fire company personnel. Additionally, Division inspectors would conduct the building inspections on the complex, industrial and hazard-related properties which require a higher degree of knowledge, experience and time.
FIRE PREVENTION

FIRE INVESTIGATIONS

A critical element of a municipal fire prevention program is the development of a thorough understanding of the causes of fire in the community. A fire department's fire investigators seek to determine the cause of fires in the community by looking at what burns, when it burns, where it burns, how it starts, and what human interactions are involved in the ignition.

Finding the answers to these questions provides important feedback to other aspects of the fire department's fire prevention program. For example, if there are a significant number of candle related fires occurring within a certain ethnic neighborhood, then the fire department can initiate a public education program that specifically targets the dangers of candle use within that neighborhood.

In communities where fire department fire investigators have police powers, personnel may conduct an investigation to the point of arrest and incarceration of the perpetrators. Where fire department fire investigators do not have police powers, then fire cause determination must be made by the fire department with a follow-up criminal investigation conducted by a law enforcement agency.

In the LMFD, the investigation of fires is handled by the fire marshals that are trained and certified to the certified fire and explosives investigator (CFEI) level. The fire marshals do not have police powers and therefore can only conduct origin and cause investigations. In terms of additional assistance with origin and cause investigations, the fire marshals can utilize a number of resources, including investigators from neighboring jurisdictions or from the Pennsylvania State Police.

If arson or other criminal activity is suspected in relation to a fire incident, then the fire marshals will summon and work with the Township police department detectives or the Montgomery County detectives.

Information provided to the Study Team basically revealed no arson problems in the Township. In fact, according to the FBI Uniform Crime Report for 2004 and 2005, there were only four cases of arson in 2004 for the Township and none in 2005. This is excellent.
FIRE PREVENTION

FIRE INVESTIGATIONS (continued)

Likewise, the Study Team learned of no known juvenile fire setter problem or any malicious fire behavior.

The Study Team has two recommendations concerning fire investigations operations within the LMFD. The Team suggests that the fire investigation function within the LMFD remain as a collateral duty of the fire marshals and that the LMFD support the continued training and certification of persons working in those positions.

Second, the Study Team was advised that not all vehicle fires are currently investigated due to an issue of cost-effectiveness, unless a fire marshal is called out. The Study Team suggests that the Department initiate the practice of investigating all, including vehicle fires called upon to do so by the police and fire incident commanders. Vehicle theft is one of the most frequent and costly crimes in the United States and arson events often involve stolen vehicles. Failing to investigate vehicle fires simply leaves the perpetrator free to continue criminal activity.

FIRE AND LIFE SAFETY EDUCATION

An effective fire services delivery agency has a life and fire safety education program that focuses on awareness and attitudes that reduce the fire and injury risk in the community.

NFPA Standard 1201 states the following:

"13-1.1 Fire safety education shall be considered a major component of fire protection management.

A13-1.1 Fire officials recognize that public fire safety education is the most effective way to reduce fire incidence. The majority of fire and fire-related deaths and injuries occur in residential occupancies, which are more difficult to inspect because of social resistance and constitutional protection. Education brings safety attitudes into the home."
FIRE PREVENTION

FIRE AND LIFE SAFETY EDUCATION (continued)

13-1.2 Fire safety education objectives shall focus on providing citizens with information to help them to protect their lives and their property from fire.”

LMFD Public Fire Safety Education Programs

The responsibility for public fire and safety education in the LMFD is vested with both the fire marshals and the fire companies. It appears that the fire marshals are involved in public fire safety education on an as-needed basis throughout the Township, whereas the fire companies are more focused on public fire safety activities in their response districts.

The Study Team did not find any evidence of an aggressive public fire service education program, either at the fire marshal or the fire company level. While everyone spoke of the public fire safety education efforts during interviews, there appears to be no effort in any specific direction concerning any particular program area. This is not uncommon for fire departments similar in size and staffing to the LMFD.

Similar to fire inspection discussion presented earlier in this Chapter, an all volunteer emergency response force is often not available for public fire safety education work unless the work is on a weekend or during evening hours.

The Study Team was advised that there are a “number of station tours” conducted throughout the year, but data reporting the frequency, type of tour and official conducting the tour was inconsistent. One would expect that such tours would be led by the paid firefighters at the individual fire companies, with some assistance provided by the volunteers based upon their availability.

In reference to public education activities at the fire marshal level, it was noted that one of the current DFMIs took the primary role in handling such activities. According to the 2006 LMFD Annual Report, the fire marshals delivered 47 fire safety training classes to a variety of audiences, including:
FIRE PREVENTION

FIRE AND LIFE SAFETY EDUCATION (continued)

1. Daycare center staff;
2. Condominium groups;
3. School staff;
4. Library staff;
5. Postal employees;
6. Nursing and security staff; and,
7. Surgical center staff.

In addition to the fire prevention safety courses offered, the LMFD operates a fire safety trailer which was used throughout 2006 to help deliver fire prevention and fire safety education programs to school age children in the Township. In 2006, the trailer was used on 40 different occasions helping over 900 students receive the fire safety message.

A longstanding tradition in the LMFD is the Annual Business Persons Fire Prevention Luncheon. Each year this luncheon recognizes a business member in the community who has supported the fire prevention efforts through safe practices in their work environment. This luncheon is held in cooperation with the individual fire companies of the LMFD who invite local business persons from their individual response districts to be their guest at the event.

In addition, the LMFD runs fire safety public safety announcements (PSAs) on the local cable television channel. These PSAs are generally seasonally based topics that reflect the fire safety issues during different times of the year.

The Study Team recommends that the LMFD function of public fire safety education be fully funded and supported on a Township-wide basis and be assigned as a collateral duty to one of the fire marshals. The LMFD should also consider the use of a volunteer corps to assist in the delivery of public fire safety education; the corps should be comprised of members from the LMFD fire companies.
FIRE PREVENTION

OPPORTUNITY FOR IMPROVEMENT

Based on the previously discussed assessment of the LMFD's fire prevention programs, it appears that the CFO Office needs to be reorganized into a fire prevention division, as outlined in Chapter Two of this report. The Study Team suggests that the title of fire marshal remain assigned to the chief fire officer and that the newly formed fire prevention division be lead by a deputy fire marshal (DFM).

Two assistant fire marshals (AFM), two fire inspectors, and one administrative secretary I would serve under the DFM. This is a suggested fire prevention staffing increase of three positions for fire prevention: two fire inspectors and one administrative secretary. To create these positions with the authority to enforce the Township fire codes, amendments to Chapter 78 of the Code of the Township of Lower Merion may be needed.

This proposed reorganization would involve an existing DFM supervising the fire prevention division and reporting directly to the deputy chief fire officer. The remaining two DFM positions (one currently vacant) would be re-titled assistant fire marshal and would report directly to the DFM. The two new fire inspectors would report directly to the AFMs, and the new administrative secretary I would report to the DFM.

The Study Team suggests that the recommended LMFD fire inspectors be employees who are assigned firefighting or emergency response responsibilities. The primary duties of the fire inspectors should focus on code enforcement inspections within the community. The new inspectors should be trained and certified in compliance with NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plans Examiner, 2003 Ed and in appropriate fire and rescue operations.

The reorganization of the CFO Office and the creation of a fire prevention division would better align the fire prevention duties and functions under one unit. Given the current workload and the expected levels of complexity of new properties and commercial development, the Study Team believes that a change and increase in staffing is necessary.
FIRE PREVENTION

OPPORTUNITY FOR IMPROVEMENT (continued)

The advantage to having a volunteer-based emergency response service in a community the size of the Township of Lower Merion is the personnel cost-savings. The disadvantage is that the volunteer forces most likely do not participate on a regular basis in fire code enforcement, plans reviews, or inspections. The Study Team finds that the majority of this type of work must be done during weekday business hours, hours during which many volunteers are not available to participate.

Because the Township wishes to retain its volunteer response forces, a commitment must be made to ensure that the incidence of fire and associated calls for service do not increase. When examining the history of numerous combination fire departments, those that eventually evolved into career fire departments reported that the call volume increased to a level where volunteers were no longer able to meet the demand.

Therefore, the Study Team believes that it is in the Township’s best interest to support the LMFD’s creation of a fire prevention division as described above so that life and property losses are controlled, and the volunteer fire companies are able to continue to provide emergency response services.

Uniformed Rank

In many of the fire departments that the Study Team has assessed over the years, a uniformed rank (lieutenant, captain, chief officer, etc.) traditionally has been given to those individuals working in the fire marshal or deputy/assistant fire marshal positions. The Study Team believes that the assignment of uniformed rank to the various fire marshal positions is advantageous when dealing with emergency incident operations and associated matters. The current job description of the deputy fire marshals includes assisting in incident mitigation, particularly during daytime hours when volunteer staffing is often limited.

While the Study Team did not assign or recommend a rank structure for the reorganization and creation of the LMFD fire prevention division, the Team suggests that the LMFD consider the assignment of rank to the fire marshal positions in the future, possibly assistant
FIRE PREVENTION

OPPORTUNITY FOR IMPROVEMENT (continued)

chief for the deputy fire marshal and captain for the assistant fire marshals. As such, these positions should be included in the integrated command structure.

FEE REVENUE

Based on applicable ordinances, laws, and codes, the LMFD collects a limited number of fees for services rendered by the fire marshal staff. The revenue generated by these fees is returned directly to the Township’s General Fund. In FY2005, the revenue generated by these fees was $7,381 and in FY2006, it was $7,730.

Currently, the fees for service authorized by the LMFD are:

- Burn permits
- Blasting supervision
- Fire report requests
- Fire Code requests
- File searches
- Deposition fees
- Photograph duplication

Reportedly, the practice of charging fees for local government services is sometimes a controversial issue in communities around the United States. Some citizens view local government service fees as just another tax imposed on the citizenry, while others view such fees as a necessary evil to keep property taxes low and to force the users of the services to pay for the services.

Regardless of the positions taken by members of the public, the Study Team recognizes that fees for services in the fire prevention field are a trend that is becoming more and more popular among municipalities. In terms of LMFD’s use of fees, the Study Team finds the fees very limited in scope and suggests that the fire department consider the expansion of service
FIRE PREVENTION

FEE REVENUE (continued)

fees as a mechanism to fund improvements in the new fire prevention division and generate revenue for the Township.

In the Delaware Valley region, the Study Team found a number of municipalities that are either in the process of expanding their fire marshal fees or have already instituted a comprehensive fee structure.

For example, the Fire Marshal Office fee schedule for Bensalem Township has fees that address items such as:

A. Annually renewable operations permits (required by the International Fire Code);
B. Fire protection contractor license fees;
C. Building permit review fee for the fire marshal review of plans;
D. Zoning hearing board fee for fire marshal review of zoning issues;
E. Land development plans fee for the fire marshal review of land development plans;
F. Demolition permits;
G. Special event permits;
H. Pyrotechnic special effects permit;
I. Tent permit;
J. Fuel tank installation, removal, abandonment permit;
K. Underground fire mains permit;
L. Automatic sprinkler systems permit;
M. Standpipe systems permit;
O. Fire alarm and detection systems permit;
P. Kitchen hood and duct extinguishing system permit;
Q. Fire pumps and related equipment permit;
R. Gaseous fire extinguishing systems permit;
S. Bulk storage of flammable and/or combustible liquids and gases permit;
T. Hazardous materials storage permit;
FIRE PREVENTION

FEE REVENUE (continued)

U. LP-Gas tanks permit; and,
V. Private fire hydrant permit.

While that list seems rather extensive, it is very detail-oriented and certainly covers those fire marshal activities that require the use of people, time, and technical expertise to inspect or evaluate a particular situation. In addition, all items on the list are very important to a fire safe community.

There are a number of other local municipalities with fire marshal fees. Cheltenham Township, Upper Merion Township, Limerick Township, and Newtown Township all have detailed fee structures; Hatfield Borough is reportedly undergoing a revision to their fee schedule to include more detail-oriented service functions.

The Study Team suggests that the LMFD work with the Township to establish an LMFD fire services fee schedule that addresses the numerous services provided by the Department. The Study Team also suggests that a portion of the revenue generated from the collection of those fees be returned directly to the LMFD for use in upgrading their fire prevention operations.

A technology and training fund, funded through a ten percent return to the LMFD of all fire service fee revenue generated in a fiscal year, is one option for a revenue stream to support enhancements. These funds could be used to upgrade office technology (computers, software, information technology support, field support equipment, etc.). The funds could also be used to support the training and certification of the fire prevention division personnel. By returning a set portion of the service fee revenue to the LMFD budget, needed enhancements in various aspects of fire prevention services could be implemented.

SUMMARY

As part of a fire department, a fire prevention division is an integral part of a municipality’s responsibility to provide for the welfare of the city and its citizens. It is through an effective life and fire safety education, investigation, code administration, application and enforcement
FIRE PREVENTION

SUMMARY (continued)

effort that a municipality will realize the greatest protection from fire and accident. No number of firefighters, fire/rescue houses, apparatus and/or equipment can save lives or property from fire as well as an educated public. Complement the fire prevention function with an effective suppression force and a municipality has the basis for a proactive, efficient, cost-effective, municipal life and fire safety program.

The Township of Lower Merion has an established system of building and fire codes that provide a high level of protection for the community. Ensuring that those codes are enforced is a top priority for the Township, the LMFD, and the citizens and property owners which those codes protect. The LMFD once had an effective code enforcement and building inspection program that needs to be returned to its former status.

Conducting fire-related building inspections is a key function of a fire department’s fire prevention effort, ensuring fire codes are enforced. Additionally, if firefighters are involved in the process, the field firefighters have the opportunity to become more familiar with the buildings in their area during a non-emergency situation.

The LMFD should consider utilizing an innovative three-tier approach to conducting building inspections in the Township. This approach includes self-inspection for the small “mom and pop” type businesses such as barber shops; a comprehensive well-managed inspection program conducted by paid firefighters in the individual fire companies; and, follow-up on problematic field inspection issues and the more complex industrial and hazard-related property inspections conducted by LMFD fire marshals.

Finally, the fire prevention function of the LMFD should be provided adequate staff to manage the complex workload associated with effective fire prevention programs. The creation of a fire prevention division and the addition of fire inspectors and administrative support should provide a good start to improving the code enforcement, plans review, and building inspection processes.

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FIRE PREVENTION

RECOMMENDATIONS

10.1 The LMFD should conduct an in-depth review of the nature and cause of all civilian fire injuries that have occurred over the last five years in the Township and evaluate those results for potential changes needed in LMFD fire prevention programs.

10.2 The LMFD is encouraged to continue to accurately document all fire losses and conduct periodic reviews of fire loss trends in an effort to address any specific revisions needed to the Township building and/or fire codes.

10.3 The LMFD is encouraged to create a fire prevention division that is headed by a deputy fire marshal and staffed by two assistant fire marshals, two fire inspectors, and one administrative secretary.

10.4 The title of fire marshal should remain assigned to the chief fire officer.

10.5 The LMFD fire inspectors should be employees who are assigned firefighting or emergency response responsibilities and who are trained and certified in compliance with NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plans Examiner, 2003 Ed.

10.6 In the future, the LMFD should consider re-titling the uniformed fire marshal positions in the department’s fire prevention division.

10.7 The LMFD should work with the Township to establish a LMFD fire services fee schedule that addresses the numerous services provided by the fire prevention division; partial return of revenue to the LMFD for the purpose of technology and training upgrades should be established.

10.8 The LMFD, working in conjunction with the fire companies, must implement an in-service inspection program that utilizes the paid firefighters from the LMFD fire companies to conduct routine fire and life safety inspections.
FIRE PREVENTION

RECOMMENDATIONS (continued)

10.9 The LMFD should implement a three-tier building inspection program that includes the following components:

A. A mail-in, self-inspection program for small, limited-hazard occupancies;
B. An in-service building inspection program using the paid firefighters from the individual fire companies to conduct routine building inspections in their response districts; and,
C. A fire marshal/fire inspector program for building and system inspections of more complex properties or for the follow-up to routine inspections that resulted in uncorrected violations.

10.10 The fire investigation function within the LMFD should remain as a collateral duty of the DFM and the AFMs in the new fire prevention division.

10.11 The suggested new fire prevention division should continue the practice of investigating vehicles fires when called upon to do so by incident commanders.

10.12 The LMFD function of public fire safety education should be fully funded and supported on a Township-wide basis and be assigned as a collateral duty to one of the fire marshals in the proposed fire prevention division.

10.13 The LMFD should consider the use of a volunteer corps to assist in the delivery of public fire safety education; the corps should be comprised of members from the LMFD fire companies.

10.14 The Township and LMFD are encouraged to enhance the information technology support functions of the Fire Department to support the suggested new staff members and facilitate the improved delivery of fire prevention and records functions.
CHAPTER ELEVEN:
IMPLEMENTATION PLAN